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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/817,009	03/24/2001	Mark B. Lyles	068986.0103	5744

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EXAMINER

EPPERSON, JON D

ART UNIT

PAPER NUMBER

1639

DATE MAILED: 01/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b> <i>File Copy</i>	Application No. 09/817,009	Applicant(s) LYLES, MARK B.	
	Examiner Jon D Epperson	Art Unit 1639	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2002.
- 2a) ☐ This action is FINAL.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) 11, 12 and 15-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 13 and 14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

#### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5 and 6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

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### DETAILED ACTION

**Please note:** The Group and/or Art Unit location of your application in the PTO has changed. To aid in correlating any papers for this application, all further correspondence regarding this application should be directed to **Group Art Unit 1639**.

#### *Status of the Application*

1. Receipt is acknowledged of a Response to a Restriction Requirement, which was dated on October 24, 2002 (Paper No. 7).

#### *Priority Claims*

2. The priority filing date of March 24, 2000 for application 60/192,113 is acknowledged.

#### *Status of the Claims*

3. Claims 1-36 are pending in the present application.
4. Applicant's election of Group I *without traverse* (claims 1-16) is acknowledged (see Paper No. 7) and claims 17-36 are consequently withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to nonelected inventions, there being no allowable generic or linking claim.

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5. Please note: Applicant's elected species (see Paper No. 7, page 2) were found in the art, see rejections below. Applicant is reminded of MPEP § 803.02 with respect to species elections:

On the other hand, should no prior art be found that anticipates or renders obvious the elected species, the search of the Markush-type claim will be extended. If prior art is then found that anticipates or renders obvious the Markush-type claim with respect to a nonelected species, the Markush-type claim shall be rejected and claims to the nonelected species held withdrawn from further consideration. The prior art search, however, will not be extended unnecessarily to cover all nonelected species. Should applicant, in response to this rejection of the Markush-type claim, overcome the rejection, as by amending the Markush-type claim to exclude the species anticipated or rendered obvious by the prior art, the amended Markush-type claim will be reexamined. The prior art search will be extended to the extent necessary to determine patentability of the Markush-type claim. In the event prior art is found during the reexamination that anticipates or renders obvious the amended Markush-type claim, the claim will be rejected and the action made final. Amendments submitted after the final rejection further restricting the scope of the claim may be denied entry.

6. Claims 11-12 and 15-16 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected species (see below i.e., *Response to Restriction and/or Election of Species*).

7. Therefore, claims 1-10 and 13-14 are examined on the merits in this action. Please note that claims 1-10 and 13-14 are only examined to the extent of the elected species and/or subject matter (see MPEP § 803.02).

#### *Response to Restriction and/or Election of Species*

8. Applicant's election of species in Paper No. 7 (see page 2) is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election of species has also been treated as an election without traverse (MPEP § 818.03(a)).

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9. As a result, the restriction requirement and/or election of species is still deemed proper and is therefore made FINAL.

***Information Disclosure Statement***

10. The listing of references in the specification is not a proper information disclosure statement. 37 CFR 1.98 (b) requires a list of all patents, publications, or other information submitted for consideration by the Office, and MPEP § 609 A(1) states, "the list may not be incorporated into the specification but must be submitted in a separate paper." Therefore, unless the references have been cited by the examiner on the form PTO-892, they have not been considered.

11. The references listed on applicant's PTO-1449 form have been considered by the Examiner. A copy of the form is attached to this Office Action.

***Specification***

12. An application in which the benefits of an earlier application are desired must contain a specific reference to the prior application(s) in the first sentence of the specification or in an application data sheet (37 CFR 1.78(a)(2) and (a)(5)).

13. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

***Claims Rejections - 35 U.S.C. 112, second paragraph***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

14. Claims 1-16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

A. **Claim 1** recites the limitation "the surface" in the last two lines. There is insufficient antecedent basis for this limitation in the claim. The Examiner recommends the "porous material surface." Therefore, claim 1 and all dependent claims are rejected under 35 USC 112, second paragraph.

B. **Claims 7-9** recite the limitation "the exposed surface." There is insufficient antecedent basis for this limitation in the claim. The Examiner recommends "the exposed porous material surface." Therefore, claims 7-9 and all dependent claims are rejected under 35 USC 112, second paragraph.

***Claims Rejections - 35 U.S.C. 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless -

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

15. Claims 1, 10 and 13 are rejected under 35 U.S.C. 102(a) as being anticipated by Glazer et al (Glazer, M.; Frank, C.; Vinci, R. P.; McGali, G.; Fidanza, J.; Beecher, J. "High surface area substrates for DNA arrays" *Materials Research Society Symposium Proceedings* 1999, 576, 371-376).

For *claim 1*, Glazer et al discloses high surface area substrates for DNA arrays (see Glazer et al, entire document), which anticipates claim 1. For example, Glazer et al discloses "two-dimensional arrays of biomolecules that contain at least 100 different molecules on a porous substrate at predefined regions (see Glazer et al, pages 371-2, Introduction; see also figure 1-2), which anticipates claim 1.

For **claims 10 and 13**, Glazer et al discloses both DNA (see Glazer et al, pages 371-2, Introduction).

16. Claims 1, 10, 13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Brown et al (US Pat. No. 5,807,522) (Date of Patent is **September 15, 1998**).

For *claim 1*, Brown et al discloses a substrate for attachment of an array of biomolecules comprising a substantially rigid planar inorganic material having a top surface wherein the top surface has a plurality of pores disposed therein (see Brown et al,

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entire document, especially column 12, lines 1-15). Furthermore, Brown et al discloses at least 100 different molecules bound to the top of the surface at different locations (see Brown et al, column 14, paragraph 3, “In a preferred embodiment, each microarray contains at least 10<sup>3</sup> distinct polynucleotide or polypeptide biopolymers per surface area of less than about 1 cm<sup>2</sup>”), which anticipates claim 1.

For **claims 10, 13 and 14**, Brown et al discloses both DNA and RNA (see Brown et al, column 15, paragraph 1, “[o]ther molecules of genetic interest, such as cDNAs and RNAs can be immobilized on the array”).

17. Claims 1, 10, 13 and 14 are rejected under 35 U.S.C. 102(e) as being anticipated by Goldberg et al (US Pat. No. 5,959,098) (Date of Patent is September 28, 1999) (Date Filed is **April 17, 1996**).

For **claim 1**, Goldberg et al discloses a substrate for the attachment of an array of greater than 100 different biomolecules bound to a different predetermined regions of the surface of the porous material (see Goldberg et al, entire document; see especially column 6, section IV), which anticipates claim 1. For example, Goldberg et al discloses a two-dimensional array comprising molecules bound to the material surface (see Goldberg et al, column 6 lines 50-57, see also column 6 last paragraph). Goldberg et al also discloses that said material surface may be porous (see Goldberg et al, column 6, lines 39-49, “Silica aerogels may also be used as substrates ... Porosity may be adjusted by altering reaction conditions by methods known in the art”). Goldberg also discloses that at least 100 different molecules may be bound to the surface of the porous material in



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different predetermined regions (see Goldberg et al, column 2, lines 2-4, “Each polymer array includes a plurality of different polymer sequences coupled to the surface of the substrate wafer in a different known location”) (see also columns 9-14, section V; see especially column 10, last paragraph, “Using the above described methods, arrays may be prepared having all polymer sequences of a given length ... For an array of 8mer or 10mer oligonucleotides, such arrays could have upwards of about 65,536 and 1,048,576 different oligonucleotides respectively”).

For *claims 10, 13 and 14*, Goldberg et al discloses an array of oligonucleotides (see Goldberg et al, columns 9-14, section V; see especially column 10, last paragraph, “Using the above described methods, arrays may be prepared having all polymer sequences of a given length ... For an array of 8mer or 10mer oligonucleotides, such arrays could have upwards of about 65,536 and 1,048,576 different oligonucleotides respectively”), which anticipates claim 10. Furthermore, Goldberg discloses nucleic acids, a broad term, which would encompass both RNA and DNA. Furthermore, the chemistry for the solid-phase synthesis of both RNA and DNA via modification of the silanol groups is well known in the art. “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). The Office does not have the facilities to make such a comparison and the burden is on the applicants to establish the difference. See *In re Best*, 562 F.2d 1252, 195 USPQ 430 (CCPA 1977) and *Ex parte Gray*, 10 USPQ 2d 1922 1923 (PTO Bd. Pat. App. & Int.).

***Claim Rejections - 35 USC § 103***

18. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

19. Claims 1-10 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Glazer et al (Glazer, M.; Frank, C.; Vinci, R. P.; McGali, G.; Fidanza, J.; Beecher, J. "High surface area substrates for DNA arrays" *Materials Research Society Symposium Proceedings* 1999, 576, 371-376) and Elmer, T. H. (Elmer, T. H. *Engineered Materials Handbook*, 1992, Vol. 4, pages 427-432).

For **claims 1, 10 and 13**, Glazer et al teaches all the limitations stated in the 35 U.S.C. 102(a) rejection above (incorporated in its entirety herein by reference), which anticipates claims 1, 10 and 13 and, consequently, also renders obvious claims 1, 10 and 13.

The prior art teachings of Glazer et al differ from the claimed invention as follows:

For **claims 2-4**, Glazer et al is deficient in that it does not specifically recite that the porous material can comprise alumina (although it does mention silica and boron). Furthermore, Glazer et al also does not recite that the porous material can be made from a compositions comprising about 1% to about 50% by weight alumina, about 50% to about 98% by weight silica, and about 1% to about 5% by weigh boron. Glazer et al only

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recites that materials that are 67.4% SiO<sub>2</sub>, 25.7% B<sub>2</sub>O<sub>3</sub> and 6.9% Na<sub>2</sub>O (see Glazer et al, page 372, Experiment, Sodium borosilicate glass; see also page 372, paragraphs 2-4).

For **claim 5**, Glazer et al is deficient in that it does not specifically recite a pore radius e.g., greater than about 10 microns.

For **claim 6**, Glazer et al is deficient in that it does not specifically recite the limitation that the porous material must be at least about 6 pounds per cubic foot.

For **claims 7-9**, Glazer et al is deficient in that it does not specifically recite the that the percentage of exposed surface is at least about 50%, 75% or 95% silicon dioxide.

However, Elmer, T. H. teaches the following limitations that are deficient in Glazer et al:

For **claims 2-4**, Elmer, T. H. teaches porous materials with silica, alumina and boron wherein the composition by weight is 62.7% SiO<sub>2</sub>, 26.9% B<sub>2</sub>O<sub>3</sub>, 6.6% Na<sub>2</sub>O and 3.5% Al<sub>2</sub>O<sub>3</sub> (see Elmer, entire document, especially page 427, middle column, paragraphs 2-3; see also page 428, Table 1, Glass A; see also page 428, "Properties of Porous Glass" and Table 2).

For **claim 5**, Elmer, T. H. discloses methods for adjusting pore radius. Specifically, Elmer teaches porous substrates for the attachment of an array of biomolecules comprising a plurality of pores therein wherein the pore radius can be adjusted as desired (page 428, middle column, last two lines-right column, first paragraph) and they teach specific substrates wherein the pores have a radius of 10  $\mu$ m (page 429, middle column, third full paragraph-right column, Table 2 and page 430, right column).

For **claim 6**, Elmer, T. H. discloses the production of a porous glass that is 0.054 lb/in<sup>3</sup> (see Elmer, page 428, Table 2), which is “at least about 6 pounds per cubic foot.”

For **claims 7-9**, Elmer, T. H. discloses the production of porous glass that contains 96% SiO<sub>2</sub> (see Elmer, page 427, middle column, last paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to use the porous materials disclosed by Elmer, T. H. with the invention as disclosed by Glazer et al because Glazer explicitly stated that and porous material can be used to increase the number of immobilized probe molecules and describe porous materials that are almost identical to those described by Elmer and are produced by the same “subtractive” method as described by Elmer (see Glazer et al, abstract, introduction, especially page 372, paragraph 3). In addition, Elmer states that proteins and nucleic acid and DNA can bind to the porous glass disclosed by Elmer (see Elmer, page 429, second to last paragraph) as required by the method of Glazer et al (see also Elmer, page 430, first paragraph, “[b]ecause of the organophilic nature of porous glass, its internal surface can be modified with organo-functional silane coupling agents. It can also be modified by using the methods of classic biochemistry. The surface-treated controlled-pore glasses have found uses for the preparation of specialized diagnostic products and for immobilization of enzymes”). Furthermore, one of ordinary skill in the art would have been motivated to use the porous substrates disclosed by Elmer, T. H. in the invention disclosed by Glazer because Elmer states that these materials would (1) have greater resistance to deformation (see Elmer, page 427, column 1, first paragraph); (2) provide benefits of increased surface area and size exclusion (see Elmer, page 429, right

column, last full paragraph); (3) the materials are commercially available (see Elmer, page 428, Table 2); and it is versatile i.e., it can be used in both aqueous and non-aqueous environments and the silanol groups can be replaced for ligand attachment (see Elmer, page 429, columns 2-3; see also page 430, column 1, first paragraph).

20. Claims 1-10 and 13-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Goldberg et al (U.S. Pat. No. 5,959,098) (Filing Date is **April 17, 1996**) and Elmer, T. H. (Engineered Materials Handbook, 1992, Vol. 4, pages 427-432).

For **claims 1, 10, 13 and 14**, Goldberg et al teaches all the limitations stated in the 35 U.S.C. 102(e) rejection above (incorporated in its entirety herein by reference), which anticipates claims 1, 10, 13 and 14 and, consequently, also renders obvious claims 1, 10, 13 and 14.

The prior art teachings of Goldberg et al differ from the claimed invention as follows:

For **claims 2-4**, Goldberg et al is deficient in that it does not specifically recite that the porous material can comprise alumina, silica and boron. Furthermore, Goldberg et al also does not recite that the porous material can be made from a compositions comprising about 1% to about 50% by weight alumina, about 50% to about 98% by weight silica, and about 1% to about 5% by weigh boron. Goldberg et al only recites that that “[p]referred substrates generally comprise planar crystalline substrates such as silica based substrates” (see Goldberg et al, column 6, lines 30-31).

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For **claim 5**, Goldberg et al is deficient in that it does not specifically recite a pore radius e.g., greater than about 10 microns. Goldberg et al is only teaches generally that the porosity may be adjusted using known methods in the art (see Goldberg et al, column 6, lines 39-49).

For **claim 6**, Goldberg et al is deficient in that it does not specifically recite the limitation that the porous material must be at least about 6 pounds per cubic foot.

For **claims 7-9**, Goldberg et al is deficient in that it does not specifically recite the that the percentage of exposed surface is at least about 50%, 75% or 95% silicon dioxide.

However, Elmer, T. H. teaches the following limitations that are deficient in Goldberg et al:

For **claims 2-4**, Elmer, T. H. teaches porous materials with silica, alumina and boron wherein the composition by weight is 62.7% SiO<sub>2</sub>, 26.9% B<sub>2</sub>O<sub>3</sub>, 6.6% Na<sub>2</sub>O and 3.5% Al<sub>2</sub>O<sub>3</sub> (see Elmer, entire document, especially page 427, middle column, paragraphs 2-3; see also page 428, Table 1, Glass A; see also page 428, "Properties of Porous Glass" and Table 2).

For **claim 5**, Elmer, T. H. discloses methods for adjusting pore radius. Specifically, Elmer teaches porous substrates for the attachment of an array of biomolecules comprising a plurality of pores therein wherein the pore radius can be adjusted as desired (page 428, middle column, last two lines-right column, first paragraph) and they teach specific substrates wherein the pores have a radius of 10 μm (page 429, middle column, third full paragraph-right column, Table 2 and page 430, right column).

For **claim 6**, Elmer, T. H. discloses the production of a porous glass that is 0.054 lb/in<sup>3</sup> (see Elmer, page 428, Table 2), which is “at least about 6 pounds per cubic foot.”

For **claims 7-9**, Elmer, T. H. discloses the production of porous glass that contains 96% SiO<sub>2</sub> (see Elmer, page 427, middle column, last paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to use the porous materials disclosed by Elmer, T. H. with the invention as disclosed by Goldberg et al because Goldberg explicitly stated that “[p]referred substrates generally comprise planar crystalline substrates such as silica based substrates” (see Goldberg et al, column 6, lines 30-31), which would encompass any silica based substrates including silica based substrates that contain alumina and boron as disclosed by Elmer. In addition, Elmer states that proteins and nucleic acid and DNA can bind to the porous glass (see Elmer, page 429, second to last paragraph) as required by the method of Goldberg et al (see also Elmer, page 430, first paragraph, “[b]ecause of the organophilic nature of porous glass, its internal surface can be modified with organo-functional silane coupling agents. It can also be modified by using the methods of classic biochemistry. The surface-treated controlled-pore glasses have found uses for the preparation of specialized diagnostic products and for immobilization of enzymes”).

Furthermore, one of ordinary skill in the art would have been motivated to use the porous substrates disclosed by Elmer, T. H. in the invention disclosed by Goldberg because Elmer states that these materials would (1) have greater resistance to deformation (see Elmer, page 427, column 1, first paragraph); (2) provide benefits of increased surface area and size exclusion (see Elmer, page 429, right column, last full paragraph); (3) the

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materials are commercially available (see Elmer, page 428, Table 2); and it is versatile i.e., it can be used in both aqueous and non-aqueous environments and the silanol groups can be replaced for ligand attachment (see Elmer, page 429, columns 2-3; see also page 430, column 1, first paragraph).

### *Double Patenting*

21. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

22. A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b). Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

23. Claims 1-10 and 13-14 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-14 of copending

Application No. 09/817,016.



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Although the conflicting claims are not identical, they are not patentably distinct from each other because the present application discloses a two dimensional array of molecules bound to a porous material surface that would fall within the scope of the copending '016 application, thus rendering the present claims obvious. For example, copending '016 application discloses every limitation of the present invention including a two-dimensional array of porous material (see claims 1-2, e.g., microtiter plate is a two-dimensional array) composed of alumina, silica and/or boron (see claims 1, 4-7) wherein said porous material is made from the same composition as disclosed by applicant (compare claim 7 of copending '016 application to applicant's claim 4); has the same pore size (compare claim 8 of copending '016 application to applicant's claim 5); has the same density (compare claim 9 of copending '016 application to applicant's claim 6); has the same exposed % of silicon dioxide (compare claim 10 of copending '016 to applicant's claim 7); and is able to bind the same biomolecules to the surface of said porous material (compare claims 12-14 of copending '016 to applicant's claims 10 and 13-14). Applicant's copending application has broader coverage than the current application in that it is not limited to only a two dimensional array and it is not limited to at least 100 different molecules bound to said array. Accordingly it is deemed that the inventions claimed herein and that of the patent are obvious variants of each other.

This is a provisional obvious-type double patenting rejection because the conflicting claims have not in fact been patented.

### *Contact Information*

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24. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jon D Epperson whose telephone number is (703) 308-2423. The examiner can normally be reached Monday-Friday from 9:00 to 5:30.

25. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Wang can be reached on (703) 306-3217. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9306 for regular communications and (703) 872-9307 for After Final communications.

26. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-2439.

Jon D. Epperson, Ph.D.  
January 7, 2003

**BENNETT CELSA**  
**PRIMARY EXAMINER**

A handwritten signature in black ink, appearing to read 'Bennett Celsa', written over the printed name and title.